

REMARKS

Numbered paragraphs 1 to 5 of the Detailed Action correspond with the Examiner's rejections of claims 1-34, 36-39, and 42-44, which are based on 35 U.S.C. § 112, second paragraph grounds. The Examiner's rejections of claims 1-3, 5, 8, 14-17, 18-19, 31-34, and 41-45, which are based on 35 U.S.C. § 102 grounds, however, also begin with numbered paragraph 1 and conclude with paragraph 4 of the Detailed Action.

Claim Rejections - 35 USC §112

Having noted the Examiner's comment at paragraph 1, Applicant addresses the first numbered paragraphs 2 and 3 of the Detailed Action.

In paragraphs 2-3 of the Detailed Action, the Examiner rejected claims 1-34, 36-39, and 42-44 as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as his invention. The Examiner found that use of the term "ground segment" in original claim 1 rendered the claim indefinite because it is unclear whether the term refers only to the ground immediately underneath the respective fixtures or if it extends out to an area around the respective fixtures. Applicant asserts that "ground segment," without further limitation, is not indefinite because Applicant's system is portable, and the ground segment referred to changes with the desired placement of the respective fixtures. For example, a winch corner fixture is removably anchorable on any ground segment a user may desire the winch corner fixture to be anchored to.

Applicant has canceled original claim 1 and simplified the claim language in new claim 46. For example, as originally claimed, the winch corner fixture in claim 1 provides one end of a barricade or corridor arrangement along a side of an area adjacent to the winch corner ground segment. In new claim 46, Applicant has simplified the claim language such that the winch anchor fixture provides one end of a barricade. Any corridor or enclosure is a barricade and therefore, additional terms are redundant. For new claim 46, as well as for all of Applicant's new claims, the new claim language merely simplifies Applicant's original claims and should in no case be held to be a narrowing of any of the claims.

Applicant asserts that “ground segment,” without further limitation, as set forth throughout Applicant’s new claims 46-166, is not indefinite because Applicant’s system is portable, and the ground segment referred to changes with the desired placement of the respective fixtures.

Applicant’s new claims also address the Examiner’s comment at paragraphs 4 and 5 of the Detailed Action, which relate to the insufficient antecedent basis of Applicant’s claims.

Applicant believes that new claims 46-166 meet the requirements of 35 USC §112, and are thus, allowable.

Claim Rejections - 35 USC §102

Claim 1: Ott U.S. Pat. 775,391.

Having noted the Examiner’s comment at the second numbered paragraph 1, Applicant addresses the second numbered paragraph 2 of the Detailed Action. The Examiner rejects original claim 1 as being unpatentable over Ott. Specifically, the Examiner asserts that Ott shows all the claimed subject matter of Applicant’s portable fencing system as shown in Figures 1-7. It is the Applicant’s position, however, that Ott does not anticipate Applicant’s original claims.

Ott discloses a clothes line holder and tightener or a reel that may be removably attached to a bracket secured to a post or side of a building and having means to keeping the line taut when set up. According to Ott, a user detaches the reel and plate from the supporting bracket. When the user grasps the reel and plate such that the pawl will fall away from the ratchet wheel when the reel is turned through an arc of 90 degrees or more, the ratchet wheel is free to play out the clothes line of Ott’s device. The outer end of the clothes line is then attached to a pole or building. As the user moves away from the pole or building where the clothes line is attached, the clothes line unwinds so that it can be passed over a pulley guide mounted on the surface above the reel’s bracket which is removably attached to a post or side or a building. The winding up of Ott’s reel will draw the line taut. The line is retained in place because the pawl engages the ratchet wheel so the ratchet wheel is no longer free to play out line.

Therefore, the subject matter of Ott’s invention is the reel and bracket assembly itself, not the existing posts and sides of buildings as disclosed in Figures 1, 3 and 4 of Ott. Furthermore, it

is Ott's reel and bracket assembly that is portable, not the entire system including the fence posts or sides of buildings as disclosed in Figures 1, 3 and 4 of Ott.

Although Applicant claims a winch corner fixture, which incorporates a reel that could arguably be similar to Ott in the broadest sense, Applicant's invention utilizes a winch corner fixture that is removably anchorable to a ground segment. The reel in Applicant's system utilizes no pawl similar to Ott's, at all. Further, the reel in Applicant's system plays no part in tightening the line; it merely holds, lets out, and takes up the line. Line tightening is accomplished by manually pulling the line taut, and then manually winding it onto an anchor bracket. Applicant argues that the present invention provides one end of a barricade, where Ott's does not. Ott does not *provide* one end of a barricade. Ott's device can only attach to one end of a barricade as shown in Figure 1.

Applicant also argues that the novelty of Applicant's winch corner fixture is its removable anchorability. The portability of the winch corner fixture means that wherever the winch corner fixture is located, ranging from a pure sand environment or on solid rock, the winch corner fixture may be anchored there and removed as desired. Ott's system merely uses existing poles or existing sides of buildings to attach the reel, bracket or clothes line end to. None of the items to which Ott's device may attach are removable or unanchorable. Even if Ott can be read to disclose a fencing system, the alleged system is not portable.

Applicant's invention also utilizes a corner post fixture that is removably anchorable to a ground segment. The present invention provides an opposite end of the barricade. Ott's device can only ever attach to an opposite end of a barricade. It does not *provide* the opposite end of a barricade. In actuality, Ott's device would probably not be attached to the opposite end of a barricade because it would already be attached to the post having the winch 20 as shown in Figure 1.

Applicant's corner post fixture also differs from Ott because Applicant's corner post fixture is removably anchorable. In other words, wherever the corner post fixture is located, ranging from a pure sand environment or on solid rock, the corner post fixture may be anchored there and removed as desired. Ott's system merely uses existing poles or existing sides of buildings to attach the reel, bracket or clothes line end to. Even if Ott can be read to disclose a

fencing system, the opposite post of the alleged system as shown in Figure 1 is not removable or unanchorable.

Similar arguments are made for the spacer posts locatable between a winch corner fixture and a corner post fixture. The novelty of Applicant's spacer post is the removable attachability. Even if Ott can be read to disclose a fencing system, the left most post end of the alleged system as shown in Figure 1 is not removable or unanchorable.

As argued above, Applicant maintains that Ott does not anticipate original claim 1. However, Applicant has canceled original claim 1 and added new claim 46 with simplified claim language 46. For new claim 46, as well as for all of Applicant's new claims, the new claim language merely simplifies Applicant's original claims and should in no case be held to be a narrowing of any of the claims. In fact, Applicant's new claim 46 has no winch corner fixture element and no spacer post element, and is thus appropriately broader than that of the original claim 1.

In new claim 46, Applicant's system basically comprises: a) a corner post fixture having a central post member removably anchorable to a ground segment; b) at least one length of fence wire, said corner post fixture having means for securing the fence wire thereto; and c) the corner post fixture further comprises a rigid brace member having an anchor for securing the corner post fixture at a shallow ground penetration depth, wherein the rigid positionable brace member is located outbound from the fence wire, wherein the central post member goes into compression and the brace member anchor is pulled against the ground segment when said length of fence wire is tightened.

Applicant's new claims 46-166 are within the scope and breadth of the application disclosure. It is Applicant's position that the new claims 46-166 are all allowable because Ott does not anticipate Applicant's invention.

Claim 1: Kilmer U.S. Pat. 5,469,690.

Referring next to numbered paragraph 3 of the Detailed Action, the Examiner asserts that original claims 1-3, 5, 8, 14-17, 18-19, and 31-34 are rejected as being unpatentable over Kilmer '690. As set forth thereafter in unnumbered subparagraphs, the Examiner discusses the rejections pertaining to original claims 2, 3, 5, 8, 14-19, and 31-34 on a claim-by-claim basis.

In paragraph 3, the Examiner takes the position that Kilmer '690 discloses all the claimed subject matter of Applicant's portable fencing system as shown in Figures 1-4. It is the Applicant's position, however, that Kilmer '690 does not anticipate Applicant's original claims.

Kilmer '690 discloses a fence support apparatus that utilizes a base member laterally configured for engaging the surface of the ground as its "end post" in a fence run. The base member removably receives a post and supports the post in an upright position. The apparatus further includes an anchoring device configured for insertion into the ground. The base member also includes a coupling structure for coupling the anchoring device and spaced from the base member.

According to Kilmer '690, the receiving post is pushed through a post passageway on the base member so that it projects beyond the bottom surface of the base member. A washer and cotter pin are used to secure the receiving post to the base member. An auger having an auger flight is rotated in to the ground and also secured to the base member by means of a washer and cotter pin. Alternatively, the base member may be anchored to the ground by placing stakes through appropriately situated passageways and driving these stakes into the ground wherein the stakes form a diagonal configuration as shown in Figures 1 and 3 of Kilmer '690. A user connects the brace by placing the brace through the brace passageway and attaching a clasp about the receiving post and brace.

Figure 4 of Kilmer '690 describes Kilmer's "intermediate post" in a fence run. The receiving post is pushed through a post passageway on the base member so that it projects beyond the bottom surface of the base member. Again, a washer and cotter pin are used to secure the receiving post to the base member. In an alternate embodiment without an auger stake, the base member is anchored to the ground by placing stakes through appropriately situated passageways and into the ground wherein the stakes form a diagonal configuration.

The Examiner compares Applicant's winch corner fixture to Kilmer's "end post." However, Applicant's system differs from Kilmer '690 in many respects. Applicant's system does not utilize a base member to laterally engage the ground surface, thereby serving as a support structure. Nor does Applicant's system use a base member to secure a receiving post to by means of a passageway. Applicant's winch corner fixture is supported by the configuration of

its leg members. And unlike Kilmer's end post, there is no post associated with Applicant's winch corner fixture.

In paragraph 3, the Examiner discusses how Kilmer '690 anticipates each subpart of claim 1. In his discussion about the fourth subpart of claim 1, however, the Examiner states "the winch corner fixture and corner post fixture having means **36a** for securing the fence wire 86 thereto, and the spacer post having means **36a** for engaging the fence wire 86." [Emphasis added.] Kilmer '690 does not disclose means **36a**. The Examiner improperly includes means 36a from Ott in his §102 rejection. To reject Applicant's original claim 1 on §102 grounds, Applicant's elements must all be disclosed in a single reference.

Nonetheless, Applicant has canceled original claim 1 and added new claim 46 to include: a) a corner post fixture having a central post member removable anchorable to a ground segment; b) at least one length of fence wire, said corner post fixture having means for securing the fence wire thereto; and c) the corner post fixture further comprises a rigid brace member having an anchor for securing the corner post fixture at a shallow ground penetration depth, wherein the rigid positionable brace member is located outbound from the fence wire, wherein the central post member goes into compression and the brace member anchor is pulled against the ground segment when said length of fence wire is tightened.

The Examiner compares Applicant's corner post fixture to Kilmer's "intermediate post." However, Applicant's system differs from that disclosed in Kilmer '690. In Applicant's system, the central post member goes into compression and the brace member anchor is pulled against the ground segment when said length of fence wire is tightened, which is known in the art as "suspension bracing" or "reverse bracing."

Kilmer '690, on the other hand, operates with compression bracing, wherein the post is braced by supports which are "in line" with the fence tension. Because the point of attachment of the supporting braces creates a fulcrum over which the post is then levered when fence tension is applied, causing Kilmer's base member to pull up from the ground, said base member must be securely anchored to the ground by the employment of a deeply set auger stake. Alternatively, a user must secure the base member to the ground by anchoring stakes in a diagonal configuration (or oppositely angled) to prevent movement.

With suspension bracing, as provided by Applicant's anchorage system, the fixture is braced in opposition with the fence tension. Applicant explains the anchoring of his winch corner fixture in the specification at page 11, lines 16-24. "The approximate 90° orientation of the anchor portions of the ground anchor stakes 24 with the respective leg members 22 is what gives maximum holding power in the soil because it causes the anchor portions 40 to try to 'plow' (shear) their way through the soil instead of simply being pulled out. Soil can hold the stake much better in shear than it is able to hold a stake in tension." Applicant's explains the anchoring of his corner post fixture in the specification at page 14, line 31 through page 14, line 3. "[T]he post member 54 in compression and the two brace members 58 in tension with the 90° angle orientation of the stake portions 70 to the brace members 54 is what provides maximum holding power in the soil because it causes them to try to 'plow' (shear) their way through the soil instead of simply being pulled out. Soil can hold the stake much better in shear than it is able to hold a stake in tension."

This "reverse bracing" allows a user to employ anchors at a shallow penetration that provide a secure mount in the ground. With "reverse bracing," a user can even mount the fixtures on solid rock with only a very shallow penetration of its anchors into the rock. Regardless of the depth of penetration, Applicant's system provides a very secure fence structure that withstands high lateral forces.

The novelty of Applicant's system, which Kilmer lacks, is the security or rigidity of the fence structure against high lateral forces without the employment of deep anchoring, which is caused by the great holding power or anchorability of Applicant's fixtures.

Applicant's new claims 46-166 are within the scope and breadth of the application disclosure. It is Applicant's position that new claims 46-166 are all allowable because Kilmer '690 does not anticipate Applicant's invention.

Claims 2-3, 5, 8, 14-17: Kilmer U.S. Pat. 5,469,690.

Applicant has canceled rejected original claims 2, 3, 8, and 14-17, which were rejected by the Examiner as being unpatentable over Kilmer '690. Applicant believes its new claims address the Examiner's concerns, however, for completeness, Applicant will discuss the original claim rejections as set forth in the Detailed Action.

Regarding the Examiner's discussion about original claims 2 and 8, Applicant believes the Examiner misreads the prior art. Applicant claims a main support frame, which is shown in Figure 2A of Applicant's disclosure. The Examiner claims that the receiving post of Kilmer's system is comparable to Applicant's main support frame. Not only is the structure completely different, nothing in Kilmer '690 can be said to anticipate claims 2 and 8. Kilmer '690 lacks a main support frame upon which a winch assembly can be mounted above the mounting portions thereof.

Regarding original claim 3, Applicant claims a plurality of brackets which mount on the main support frame and adapted to have a fence wire secured to it, as shown in Figure 3 of Applicant's disclosure. The Examiner claims that the brackets securing the brace of Kilmer's system to the receiving post are comparable to Applicant's brackets mounted on the main support frame. Not only is the structure different, the purpose of Applicant's system is to provide a place to merely tie off or wind the ends or portions of the fence wire. According to Kilmer '690, Kilmer's receiving post brackets support the fence wire on the receiving post, which is a fence support member in Kilmer's system, by "threading the wires 86 through respective openings (not shown) in post 14 and brace 19 and knotting the ends thereof" (see Kilmer column 4, line 65 to column 5, line 1. Because the two systems are completely different, nothing in Kilmer '690 can be said to anticipate original claim 3.

Regarding the Examiner's discussion about original claim 15, Applicant basically claims a step bracket having a spike attached to and extending downward, mounted to the post backbone, and upon which a user may step to insert the spike into the ground. Applicant's step bracket is shown in Figures 1, 6, to 8 of Applicant's disclosure, wherein Figures 6 to 8 are prior art. The Examiner, however, claims that the base member of Kilmer's system is comparable to Applicant's step bracket. If an auger version of Kilmer's system is employed, however, stepping on the base member would not result in an appropriate insertion of the auger. To properly operate, the auger must be turned into the ground. If the stake version of Kilmer's system is used to anchor the base member to the ground, the stakes form a diagonal configuration. Stepping on the base member in this case, would not result in the diagonal insertion, or oppositely angled insertion, of either stake into the ground.

Applicant's step bracket provides a very easy means of anchoring Applicant's post and fixtures into a ground segment. No tools are needed with Applicant's system, whereas tools may be needed to advance an auger, or to drive oppositely angled stakes, into the ground.

The novelty of Applicant's system, which Kilmer lacks, is the security or rigidity of the anchors, accomplished with shallow or no penetration of a ground segment, which is caused by the reverse bracing phenomenon of Applicant's system. Not only is the structure of Applicant's step bracket and Kilmer's base member different, the purpose of the two components completely differs. Nothing in Kilmer '690 can be said to anticipate original claim 15.

Claim 18, 19, and 31-34: Kilmer U.S. Pat.5,469,690.

Regarding the Examiner's discussion about original claim 18, Applicant directs the Examiner to its arguments for original claim 1. Original claim 18 is very similar to original claim 1 except that it claims a winch corner fixture, a plurality of corner post fixtures, a plurality of spacer posts, and at least one length of fence wire storable on the winch corner fixture.

Applicant maintains that Kilmer '690 does not anticipate original claim 18. However, Applicant has canceled original claim 18 and added new claim 74 having simplified claim language. As stated above, for new claim 74, as well as for all of Applicant's new claims, the new claim language *merely simplifies Applicant's original claims and should in no case be held to be a narrowing of any of the claims.* In fact, Applicant's new claim 74 has no winch corner fixture element and no element specifying a plurality of spacer posts, and is thus appropriately broader than that of the original claim 18.

In new claim 74, Applicant's system basically comprises: a) a plurality of corner post fixtures each having a central post member removable anchorable to a ground segment; b) at least one length of fence wire, each of said corner post fixtures having means for securing the fence wire thereto; and c) each of the corner post fixtures further comprises a rigid brace member having an anchor for securing each corner post fixture at a shallow ground penetration depth, wherein each rigid positionable brace member is located outbound from the fence wire, wherein each central post member goes into compression and each brace member anchor is pulled against the ground segment when said length of fence wire is tightened.

As stated above, Applicant's new claims 46-166 are within the scope and breadth of the application disclosure. It is Applicant's position that new claims 46-166 are all allowable because Kilmer '690 does not anticipate Applicant's invention.

In summary, the Kilmer '690 system utilizes a plurality of portable fence post support assemblies each having a post, a base member configured for placement lengthwise on the ground for supporting the post thereabove in an upright orientation, an angled brace attached to and extending between the post and base member, and a plurality of anchoring devices in the form of an auger and/or spikes mounted through and extending below the base and into the ground. The Kilmer fence post support assemblies are bulky, cumbersome and awkward to handle, and requires the use of several tools and a significant amount of physical strength; thus it would not be likely that a user would be able to quickly and easily set up and take down Kilmer's fencing system.

Applicant's system, on the other hand, does not employ a base member that removably receives and supports a post in an upright position. Applicant's system has no post, stake or auger passageways. Applicant's system does not employ the use of washers and cotter pins to secure members to the base member. Nor does Applicant's system use an auger system or diagonal stake configuration in which the stakes must be driven into the ground to anchor the portable fixtures to the ground. Applicant's highly portable fencing system is quick and easy to use, and requires few or no tools to install and remove. Applicant's system utilizes shallow or no penetration of the earth which generally permits installation using the installer's body weight alone, without a corresponding physical strength, while demonstrating great anchorage strength in the ground. Though not limited to use on soils, the portable fencing system of the present application is designed to take advantage of the shear strength found in pasture soils. Further, Applicant's mounting devices augment the anchoring strength in loose soils, sands, mud, and rock. Moreover, the appropriate placement of the anchors of Applicant's fixtures results in reverse bracing that provides advantageous anchorage for the claimed fence system. Applicant maintains that Kilmer '690 does not anticipate the present invention.

Claims 41-45: Kilmer U.S. Pat. 5,139,235.

Referring next to numbered paragraph 4 of the Detailed Action, the Examiner asserts that original claims 41-45 are rejected as being unpatentable over Kilmer '235. As set forth thereafter in unnumbered subparagraphs, the Examiner discusses the rejections pertaining to original claims 42, 43, 44, and 45 on a claim-by-claim basis. The Examiner takes the position that Kilmer '235 discloses all the claimed subject matter of Applicant's portable fencing system as shown in Figures 1-5. Figures 1-3, however, pertain to, or incorporate Applicant's winch corner fixture. Figures 1-3 bear no relation to the system disclosed in Kilmer '235, which has no winch corner fixture or similar apparatus. Since the only possible similarity between the two systems would allegedly involve Figures 4-5, Applicant, therefore, addresses the Examiner's comments with respect to Figures 4-5 of the present application, or those that pertain to Applicant's corner post fixture.

Kilmer '235 discloses a corner fence post system that utilizes an augered base, a removable extension piece and a bracket. According to Kilmer '235, a user couples a clamp member to the upper portion of an extension unit and inserts another extension unit or any other handle piece through the space created by the coupling of the clamp member with upper portion of the first extension unit. When the user rotates the inserted extension unit or handle piece, the unit operates as a screw auger, in which the attached extension unit and base unit are turned into the earth. The auger flight, coupled to the lower portion of the extension unit by means of a tubular element, is advanced into the earth when the extension unit and base unit are turned into the earth.

Applicant's system, on the other hand, does not utilize an auger system to advance the present invention into the earth. Rather, Applicant's system utilizes an anchor stake attached to a ground end of the corner post fixture's central post member. The stake of the present invention is insertable into the ground by a direct downward force which may be supplied by a user's foot, not a rotational hand force as with Kilmer's augered base system. Moreover, it is the auger flight which keeps the post unit of Kilmer's system from being pulled out of the ground. In Applicant's system, the stakes are held in the soil by the configuration of the post member relative to its brace members, which cause a shearing of the stakes through the soil. The brace members are placed in tension to support the central post member when a force is applied away from the brace members.

Applicant has canceled original claim 41 and added new claim 118. In new claim 118, Applicant's corner post fixture basically comprises: a) central post member; b) a pair of rigid positionable brace members, each depending at an acute angle from the central post member; c) a pair of support brackets each separate from the other and independently adjustably mounted on the central post member; d) an anchor stake attached to a ground end of the central post member; e) wherein the stake is insertable into a ground surface without rotation; and f) wherein the brace members are placed in tension to support the central post member when a force is applied away from the brace members.

Applicant's new claims 46-166 are within the scope and breadth of the application disclosure. It is Applicant's position that new claims 46-166 are all allowable because Kilmer '235 does not anticipate Applicant's invention.

Applicant has herewith enclosed the IDS reference entitled "horizont Trekking Kit." The horizont system uses nylon strings and aluminum pegs or stakes in conjunction with a foldable center post to create a suspension corner brace. However, the prior art horizont system is very flimsy. New claim 46 specifies a rigid brace member to distinguish Applicant's invention over the prior art reference. In the IDS disclosure, Applicant's corner post fixture is shown next to an assembled version of the prior art horizont system.

Allowable Subject Matter

As set forth in numbered paragraph 5 of the Detailed Action, the Examiner objected to original claims 4, 6-7, 9-13, 20-30, and 35-40, citing their dependence from a rejected base claim rejected on §112 grounds. Since Applicant's rejected original base claims 1, 18, and 35 have been canceled and rewritten as new claims 46, 74, and 102, which should be allowable as set forth above, Applicant's new claims 50, 51, 52, 59-62, 77-81, 87-90, and 102, 104-107, 112 which include Applicant's original allowable claims 4, 6-7, 9-13, 20-30, and 35-40, should be allowable as well. Further, Applicant's new claims 129-147 include all the limitations of Applicant's original base claims 1, 18 and any original intervening claims, and should be allowable as well.

Applicant's new claims 148, 149, and 150 are means plus function versions of new claims 46, 102, 118, respectively. New claim 151 is a method of practicing Applicant's

invention. New claims 152-166 depend from new claim 151. It is Applicant's position that new claims 46-166 are all allowable because the new claims are within the scope and breadth of the application disclosure and because the cited references do not render the claims not novel or obvious.

Applicant respectfully requests the Examiner to pass this application to allowance.

Respectfully Submitted,

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PORTABLE FENCING SYSTEM AND COMPONENTS THEREFOR

This utility patent application claims the benefit of
provisional application No. 60/177,408 filed January 20,
5 2000.

BACKGROUND OF THE INVENTION

Field of the Invention

10 The present invention generally relates to fencing systems and, more particularly, is concerned with a portable fencing system and the components therefor which enable quick and easy setup and removal.

15 Description of the Prior Art

Rotational grazing is a pasture management technique that divides a particular pasture into smaller paddocks for grazing of the pasture by livestock and horses in a controlled manner. It is known to use fencing systems for 20 this purpose. The fencing systems must contain the animals' grazing activities to the defined area for a short amount of time, which keeps them from inflicting damage to the grass. Once a particular paddock has been appropriately grazed the animals are moved to another paddock which allows for the 25 just grazed paddock to quickly and efficiently recover and be ready for the next grazing cycle.

Rotational grazing is beneficial to both the animal and the pasture. The animal does not have to graze down to the roots where there is lower nutritional value and/or higher 30 concentrations of fructans (grass "sugars") and where it may

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take in bacteria that may be harmful. Since the pasture is never over-grazed, the grass stays healthier and more efficiently produces the roughage that the animal needs. The result is a significant reduction in the acres of pasture 35 required per animal and an improvement in the nutritional quality of the feed the pasture produces.

The more intense the pasture management, the shorter the grazing cycle will be and the more paddocks a pasture will require. This creates a need for fencing systems to 40 accommodate the temporary containment of the animals into smaller areas and their movement between these areas. The use of a permanent fencing system for this type of pasture management will congest the field with a large maze of fencing and make it very difficult for the farmer or rancher 45 to use tractors and implements for the conditioning and maintenance work he has to do to maintain the pasture. Permanent fencing systems would also severely restrict the manager's ability to respond to varying conditions within the pasture which may dictate the need to define grazing areas 50 that do not fit the existing arrangement of the permanent fencing system.

The inventor herein envisions that the ideal system is a portable fencing system that can be quickly and easily set up to define a small grazing area and then removed and set up 55 at another grazing area, used to make corridors for the efficient movement of animals, and used to otherwise manage the number and location of animals on the grazing areas. Such portable fencing system would give the pasture manager flexibility in providing for efficient grazing and recovery 60 of the pasture. Thus, in order for rotational grazing to be

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optimized and labor intensity minimized, the portable fencing system needs to be quick and easy to set up, securely anchored to the ground so that it will stay in place, and require few or no tools to install and remove it.

65 An example of a prior art portable fencing system is disclosed in U.S. Pat. No. 5,649,690 to Kilmer. The Kilmer system utilizes a plurality of portable fence post support assemblies each having a post for supporting a number of wires, a base member configured for placement lengthwise on 70 the ground for supporting the post thereabove in an upright orientation, an angled brace attached to and extending between the post and base member, and a plurality of anchoring devices in the form of an auger and/or spikes mounted through and extending below the base and into the 75 ground. While the Kilmer system appears to be a step in the right direction, it appears to fall far short of having the characteristics of an ideal portable fencing system as outlined above. The Kilmer fence post support assemblies seem rather bulky, cumbersome and awkward to handle and thus 80 would not be likely to enable a user to be able to quickly and easily set up and take down such fencing system.

Consequently, a need exists for an innovation which will overcome the inadequacies of the prior art fencing systems and more nearly have the characteristics of an ideal 85 portable fencing system as outlined above.

SUMMARY OF THE INVENTION

The present invention provides a portable fencing system and components therefor that satisfy the 90

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aforementioned need and more nearly meet all characteristics of the ideal portable fencing system. The portable fencing system of the present invention and the components used therein are strong, stable and durable and enable quick and 95 easy setup and removal by only requiring shallow or no soil penetration to provide the needed anchorage of the system to the ground so as to stay in place and without the use of tools.

Accordingly, the present invention is directed to a 100 portable fencing system useful for forming a barricade or corridor arrangement. The portable fencing system comprises: (a) a winch corner fixture removably anchorable on a ground segment for providing one end of a barricade or corridor arrangement along a side of an area adjacent to the ground 105 segment; (b) a corner post fixture removably anchorable on another ground segment for providing an end of the barricade or corridor arrangement along the side of the area adjacent to the ground segments; (c) at least one spacer post locatable between and spaced from the winch corner fixture 110 and the corner post fixture and removably attachable on another ground segment along the side of the area adjacent to the ground segments; and (d) at least one length of fence wire storable on the winch corner fixture and extendable therefrom so as to extend between the fixtures and past the 115 spacer post, the winch corner fixture and corner post fixture having means for securing the fence wire thereto, the spacer post having means for engaging the fence wire.

The present invention also is directed to a portable fencing system useful for forming an enclosure arrangement. 120 The portable fencing system comprises: (a) a winch corner

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fixture removably anchorable on a ground segment for providing one corner of an enclosure arrangement about an area adjacent to the ground segment; (b) a plurality of corner post fixtures removably anchorable on other ground segments for providing other corners of the enclosure arrangement about the area adjacent to the ground segments; (c) a plurality of spacer posts spaced from one another and locatable between and spaced from the winch corner fixture and the corner post fixtures and removably attachable on still other ground segments for providing side portions of the enclosure arrangement between the corners thereof and about the area adjacent to the ground segments; and (d) at least one length of fence wire storable on the winch corner fixture and extendable therefrom so as to extend between the fixtures and past the spacer posts, the winch corner fixture and , each of said corner post fixture having means for securing the fence wire thereto, the spacer posts having means for engaging the fence wire.

The present invention further is directed to a winch corner fixture useful in a portable fencing system. The winch corner fixture comprises: (a) a main support frame having at least three mounting portions angularly displaced from one another about a central vertical axis of the main support frame; (b) means for securing portions of a fence wire to the main support frame; and (c) a plurality of at least three spaced apart leg members each pivotally mounted to one of the three mounting portions of the main support frame such that the leg members can be set up in a tripod configuration about the central vertical axis of the support frame with the leg members angularly displaced from one

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another about the central vertical axis at the same angular displacements of the three mounting portions of the support frame from one another; and (d) a winch assembly supported on the main support frame above the three mounting portions 155 thereof. The winch corner fixture further comprises a plurality of at least three ground anchor stakes each attached to an end of one of the leg members and adapted to be inserted into a ground segment by stepping thereon. The attaching means is a plurality of brackets attached to the 160 main support frame adjacent to the three mounting portions thereof and adapted for securing a portion of the fence wire to a selected one of the brackets.

The present invention still further is directed to a corner post fixture useful in a portable fencing system. The 165 corner post fixture comprises: (a) a post member; (b) a pair of brace members; and (c) a pair of support brackets each separate from the other and independently adjustably mounted on the post member between opposite ends thereof, each of the brace members being pivotally mounted to one of the support 170 brackets such that the brace members are angularly displaced from one another about the post member and each can be extended outwardly and downwardly at an acute angle relative to the post member. The corner post fixture further comprises a pair of the ground anchor stakes each attached to 175 an end of one of the brace members and adapted to be inserted into a ground segment by stepping thereon.

These and other features and advantages of the present invention will become apparent to those skilled in the art upon a reading of the following detailed description when 180 taken in conjunction with the drawings wherein there is shown

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and described an illustrative embodiment of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

185 In the following detailed description, reference will be made to the attached drawings in which:

FIG. 1 is a perspective view of an exemplary embodiment of an enclosure arrangement of a portable fencing system of the present invention.

190 FIG. 2 is an enlarged assembled perspective view of a winch corner fixture of the system of FIG. 1.

FIG. 2A is an enlarged perspective view of a main support frame of the winch corner fixture of FIG. 2.

195 FIG. 2B is an enlarged perspective view of a ground anchor stake of the winch corner fixture of FIG. 2.

FIG. 3 is an exploded perspective view of the winch corner fixture of FIG. 2.

FIG. 4 is an enlarged assembled perspective view of a corner post fixture of the system of FIG. 1.

200 FIG. 4A is an enlarged perspective view of a step bracket anchor stake of the corner post fixture of FIG. 4.

FIG. 4B is an enlarged perspective view of a brace member support bracket of the corner post fixture of FIG. 4.

FIG. 5 is an exploded perspective view of the corner 205 post fixture of FIG. 4.

FIG. 6 (prior art) is an enlarged perspective view of a first embodiment of a spacer post of the system of FIG. 1.

FIG. 7 (prior art) is an enlarged side elevational view of a second embodiment of the spacer post of the system of 210 FIG. 1.

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FIG. 7A (prior art) is an enlarged side elevational view of an adjustable wire guiding device of the spacer post of FIG. 7.

215 FIG. 7B (prior art) is a side elevational view of a double wedge used with the wire hanger of FIG. 7A.

FIG. 8 (prior art) is an enlarged side elevational view of a third embodiment of the spacer post of the system of FIG. 1.

220 FIG. 8A (prior art) is an enlarged side elevational view of an adjustable wire guiding device of the spacer post of FIG. 8.

FIG. 9 is a front elevational view of a first embodiment of a mounting point device used with the system of FIG. 1 in weak soil conditions.

225 FIG. 10 is a side elevational view of the mounting point device as seen along line 10--10 of FIG. 9.

FIG. 11 is a top plan view of the mounting point device as seen along line 11--11 of FIG. 9.

230 FIG. 12 is a front elevational view of a second embodiment of the mounting point device used with the system of FIG. 1 in sand conditions.

FIG. 13 is a side elevational view of the mounting point device as seen along line 13--13 of FIG. 12.

235 FIG. 14 is a top plan view of the mounting point device as seen along line 14--14 of FIG. 12.

FIG. 15 is a front elevational view of a third embodiment of the mounting point device used with the system of FIG. 1 in muddy conditions.

240 FIG. 16 is a side elevational view of the mounting point device as seen along line 16--16 of FIG. 15.

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FIG. 17 is a top plan view of the mounting point device as seen along line 17--17 of FIG. 15.

FIG. 18 is a top plan view of different extended conditions of a surface mounting bracket used with the system 245 of FIG. 1 on surfaces where penetration is either not possible or permitted.

FIG. 19 is a top plan view of the surface mounting bracket of FIG. 18 in a retracted condition.

FIG. 20 is a side elevational view of the surface 250 mounting bracket as seen along line 20--20 of FIG. 19.

FIG. 21 is a side elevational view of the spacer post of FIG. 17 supported by a surface mounting block used with the system of FIG. 1 on surfaces where penetration is either not possible or permitted.

255 FIG. 22 is an enlarged side elevational view of the surface mounting block of FIG. 21.

FIG. 23 is a top plan view of the surface mounting block as seen along line 23--23 of FIG. 22.

260 DETAILED DESCRIPTION OF THE INVENTION

Referring to the drawings and particularly to FIG. 1, there is illustrated an exemplary embodiment of an enclosure barrier arrangement of the portable fencing system of the 265 present invention, generally designated 10, shown having a typical rectangular configuration. However, it should be understood that the portable fencing system 10 can be employed to provide almost any size and shape of an enclosure barrier around an area or a corridor or line barricade along 270 a side of an area. The typical enclosure barrier arrangement

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of the system 10, such as that shown in FIG. 1, includes at least one winch corner fixture 12, a plurality of corner post fixtures 14, a plurality of spacer posts 16, and at least one fence wire 18. The typical line barricade or corridor 275 arrangement of the portable fencing system 10 of the present invention, that would be similar to one side of the rectangular enclosure barrier arrangement of FIG. 1, includes a winch corner fixture 12, usually a corner post fixture 14 but not necessarily if a suitable end connection structure is 280 otherwise available, a plurality of spacer posts 16, and at least one fence wire 18. In forming both the enclosure and barricade or corridor arrangements, each of the winch corner fixture 12, corner post fixtures 14 and spacer posts 16 are removably anchorable to the ground generally without the use 285 of tools. The term "ground" or "ground segment" is used herein in a generic sense to include any type of surface or substrate.

Referring to FIGS. 1 to 3, the winch corner fixture 12 basically includes a main support frame 20, a plurality of at 290 least three spaced apart leg members 22, a plurality of at least three ground anchor stakes 24, and at least one winch assembly 26. As best seen in FIG. 2 and 2A, the main support frame 20 of the winch corner fixture 12 includes at least three mounting portions 28 and means attached thereon about 295 which to wrap the ends of the fence wires 18 such as in the form of three fence wire anchor clasps or brackets 30. The mounting portions 28 preferably, although not necessarily, are in the form of structural channels having inverted U-shaped configurations which preferably, although not 300 necessarily, are about equally angularly displaced from one

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another about a central vertical axis V of the support frame 20. The fence wire anchor brackets 30 are mounted at respective outer end 28A of the mounting portions 28. The main support frame 20 further includes an attachment member 305 32 such as in the form of an annular washer that overlies and bridges and is rigidly attached to inner ends 28B of the mounting portions 28 so as to help fixedly tie the three mounting portions 28 together. The attachment member 32 also ~~defines~~ may define a central mounting hole 34 therethrough at 310 the central vertical axis V of the support frame 20. The fence wire anchor brackets 30 are used for tying off the ends or portions of the fence wires 18.

Each of the leg members 22 of the winch corner fixture 12 has an upper end 22A and a lower end 22B. The leg members 315 22 at their upper ends 22A are inserted through open bottoms of the mounting portions 28 of the main support frame 20 behind the fence wire anchor brackets 30 and are hingedly or pivotally mounted to the mounting portions 28 by suitable fasteners 36 inserted through alignable holes 22C, 28C 320 defined in the leg members 22 and the mounting portions 28. The pivotal leg members 22 can thus be pivoted toward one another so as to be held next to each other for convenient carrying and storage or pivoted away from one another until they abut against stops 38 defined by central portions of the 325 fence wire anchor brackets 30 for setting the leg members 22 in a tripod configuration. In such a configuration, the leg members 22 are displaced from one another about the central vertical axis V of the support frame 20 at the same angles as the mounting portions 28 of the support frame 20 are 330 displaced from one another. When the leg members 22 are set

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up, the particular angles they will make with the ground and central vertical axis V of the support frame 20 depends upon the locations of the holes 28A in the mounting portions 28 of the support frame 20 relative to the stops 38 of the anchor 335 brackets 30. Given the particular location shown in FIG. 2A, the leg members 22 when set up will extend outwardly and downwardly at about a 45° angle from the central vertical axis V of the support frame 20 and relative to the ground.

As best seen in FIGS. 2 and 2B, each of the ground 340 anchor stakes 24 of the winch corner fixture 12 has a relatively straight stake portion 40 and a tubular sleeve portion 42 attached at one end of the stake portion 40 for mounting over the lower end 22B of one of the leg members 22 of the winch corner fixture 12. The stake portion 40 345 preferably, although not necessarily, is disposed at about a 90° angle in relation to a longitudinal axis A of the tubular sleeve portion 42 and thus of the leg member 22. Each stake portion 40 is insertable into the ground for securing the respective leg member 22 in place on the ground. When the 350 winch corner fixture 12 is to be installed, the leg members 22 are spread outward against their respective stops 38 (which extends them outward at about 45° angles from the central vertical axis V) and the fixture 12 is set on top of the ground. The inward 90° orientation of the stake portions 355 40 of the ground anchor stakes 24 relative to the leg members 22 makes it easy for the installer to step on the lower ends 22B of the leg members 22 above the downwardly extending stake portions 40 and then use his or her body weight to force the stake portions 40 into the ground. The greatest 360 strength is achieved when one of the leg members 22 is

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oriented to the inside of the fence enclosure arrangement at an angle halfway between the angle at which the fence wires 18 will meet at that corner. This way when the fence wire 18 is tightened it will cause the inside leg member 22 to go 365 into compression, which means it is being forced into the ground so it is not in danger of coming out because the ground is very strong in compression. The two leg members 22 located outside the enclosure arrangement will then be in tension at the lowest possible level of force, because 370 tension forces are the hardest to anchor in the soil. However, when achieving maximum strength is not necessary, it is best to place all three leg members 22 of the fixture 12 outside of the enclosure arrangement with two of the leg members 22 disposed adjacent to and outside of the fence 375 wires 18 meeting at the corner of the enclosure arrangement.

This placement of the leg member 22 eliminates the chance of an animal striking, pawing, stepping on or otherwise encountering the leg members 22. The approximate 90° orientation of the anchor portions 40 of the ground anchor 380 stakes 24 with the respective leg members 22 is what gives maximum holding power in the soil because it causes the anchor portions 40 to try to "plow" (shear) their way through the soil instead of simply being pulled out. Soil can hold the stake much better in shear than it is able to hold a 385 stake in tension. This is especially true in pastures where the root system of the grass significantly strengthens the soil's resistance to shearing forces.

The winch assembly 26 of the winch corner fixture 12 includes a support bracket 44, a crank handle 46, and a winch 390 reel or spool 48. The support bracket 44 is formed in a

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generally U-shaped configuration by a pair of L-shaped bracket portions 50 which are placed together and stationarily mounted to the support frame 20 by a fastener 52 inserted through the mounting hole 34 of the attachment member 32 of the support frame 20 and bottom holes 50A of the bracket portions 50 which are alignable with one another and with the mounting hole 34 of the attachment member 32. The winch spool 48 is supported between the bracket portions 50 of the U-shaped support bracket 44 on a shaft portion 46A of the crank handle 46 which extends through top holes 50B of the bracket portions 50. The winch spool 48 is thus mounted for undergoing rotation relative to the support bracket 44 using a handle portion 46B of the crank handle 46 to turn the crank handle 46 and the winch spool 48. The winch spool 48 is thus stationarily mounted over the shaft portion 46A of the crank handle 46 and is rotatable therewith for taking up and paying out the fence wire 18 on and from the spool 48. While the winch spool 48 is shown mounted by the support bracket 44 for rotation about a horizontal axis, it should be understood that the support bracket 44 could be modified to support the winch spool 48 for rotation about a vertical axis. Also, the support bracket 44 could be modified to support a pair of the winch spools 48 each on one of a pair of crank handles 46 mounted one above the other on the modified support bracket.

Most arrangements of the system 10 will require at least one winch corner fixture 12 because it provides a limited length of the fence wire 18 based upon the capacity of the winch spool 48 with the type of fence wire 18 being used. If the proposed enclosure barrier or barricade

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arrangement will be longer than the length of fence wire 18 that can be stored on the winch spool 48, a sufficient number of additional winch corner fixtures 12 will need to be included in the arrangement to supply the system 10 with the 425 desired length of fence wire 18. These additional winch corner fixtures 12 can be placed on the corners or in line, wherever is deemed most appropriate for the particular arrangement. The fence wire anchor brackets 30 on the respective winch corner fixtures 12 can be used to tie off 430 the end of the fence wire 18 from the previous winch spool 48 and continue on with the fence wire 18 from the next winch spool 48.

Referring to FIGS. 1 and 4, 5, the corner post fixture 14 basically includes a post member 54, a pair of separate 435 support bracket 56, a pair of brace members 58, a pair of the ground anchor stakes 24 (the same as used on the leg members 22 of the winch corner fixture 12), a step bracket anchor stake 60, and at least one and preferably a pair of wire securing devices 62 in the form of adjustable clips. The 440 post member 54 of the corner post fixture 14 has an upper end 54A and a lower end 54B. The support brackets 56 of the corner post fixture 14 are secured to the post member 54 at stationary locations intermediate between the upper and lower ends 54A, 54B thereof. The support brackets 56 each ~~has~~ have 445 a substantially U-shaped configuration. Each of the brace members 58 of the corner post fixture 14 is pivotally mounted by a fastener 64 through alignable holes 66, 68 in an upper end 58A of the respective brace member 58 and in a respective one of the support brackets 56 such that the brace members 58 450 can be extended outwardly and downwardly at a suitable angle,

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such as a 45° angle, in relation to the post member 54 and displaced at a suitable angle, such as 60°, from one another.

The support brackets 56 are independently rotatable on the post member 54 so that they can be separately relocated 455 horizontally about and vertically on the post member 54 to ensure that both brace members 58 independently of one another can be inserted in the ground and will hold the post member 58 in an upright orientation.

Each of the ground anchor stakes 24 of the corner post 460 fixture 14 has the relatively straight stake portion 40 and the tubular sleeve portion 42 attached at one end of the stake portion 40 for mounting over the lower end 58B of the respective one of the brace members 58. The stake portion 40 is disposed at about a 90° angle in relation to the 465 longitudinal axis B of the tubular sleeve 42 and thus of the brace member 58. The stake portion 40 is insertable into the ground for securing the brace member 58 in place on the ground. The step bracket anchor stake 60 has a straight stake portion 70 and an angled step portion 72 both attached 470 together in a substantially L- or T-shaped configuration, and a tubular sleeve portion 74 attached at one end of the step portion 72 for mounting to the lower end 54B of the post member 54. The angled step portion 72 of the anchor stake 60 is adapted to receive the installer's foot thereon for 475 forcing the stake portion 70 thereof into the ground. Each of the adjustable clips 62 is mounted to the post member 54 for holding the fence wire 18 on the corner post fixture 14.

On a straight-line barricade arrangement, if some appropriate stationary structure is not available a corner 480 post fixture 14 can be used to serve as the anchor for the

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end of the fence wire 18, whereas on enclosure arrangements, a corner post fixture 14 is placed at every "corner" point where the fence wire 18 will change directions. The corner post fixture ~~18-14~~ and its anchorage components are designed |
485 to withstand the lateral forces caused by the tensioned fence wire 18 when it changes direction at that corner. To install the corner post fixture 14, the post member 54 is positioned where required by the type of enclosure barrier arrangement or barricade arrangement being erected. Using the step
490 bracket anchor stake 60, the installer forces the stake portion 70 into the ground. The two brace members 58 are then positioned outside of the boundary of the arrangement at an orientation approximately halfway between the angle that would be made by the fence wires 18 if they were extended
495 past the corner. The support brackets 56 should be stationarily positioned along the length of the post member 54 so that the brace members 58 once installed to the ground will hold the post member 54 in the upright orientation. This assures that the brace members 58 will be placed in
500 tension when the fence wire 18 is tightened and the post member 54 will be forced down against the ground so it will not be in danger of coming out. As was the case with the winch corner fixture 12 discussed earlier, the post member 54 in compression and the two brace members 58 in tension with
505 the 90° angle orientation of the stake portions 70 to the brace members 54 is what provides maximum holding power in the soil because it causes them to try to "plow" (shear) the stakes through the soil instead of simply being pulled out.

Referring to FIGS. 1, 6 to 8, the spacer post 16
510 includes a post backbone 76 having an upper end 76A and a

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lower end 76B, a plurality of spaced apart wire guiding devices 78, a ground anchor stake 80, and a step bracket 82.

Each guiding device 78 is either an integral part of the post backbone 76 as seen in FIG. 6 or is a separate part that 515 is adjustably mounted to the post backbone 76 as seen in FIGS. 7 and 8. The guiding device 78 can have a slot 84 defined therein for receiving the fence wire 18 therethrough.

In the post 16 of FIG. 6, the slot 84 preferably is angled to allow the fence wire 18 to be easily placed into the 520 guiding device 78 when the fence wire 18 has no tension and not to allow the fence wire 18 to come out from the guiding device 78 when the fence wire 18 has tension thereon. In the posts 16 of FIGS. 6-8, the slot 84 of the guiding device 78 is configured for receiving the fence wire 18 so as to allow 525 the fence wire 18 to slide horizontally (longitudinally), but not vertically, relative thereto. The guiding devices 78 can take either of the forms shown in FIG. 6, in FIGS. 7, 7A and 7B or in FIGS. 8 and 8A. In FIG. 6, the guiding device 78 is stationarily attached to the post backbone 76. In FIGS. 7, 530 7A and 7B, the guiding device 78 is a clip 86 stationarily secured to the post backbone 76 by a double wedge 88. In FIGS. 8 and 8A, the guiding device 78 is another clip 90 stationarily secured to the post backbone 76 by a set screw 92. In either form, the guiding devices 78 hold the fence 535 wires 18 at the desired separation.

The ground anchor stake 80 of each spacer post 16 has a generally straight configuration and is preferably a continuation of the lower end 76B of the post backbone 76 and extends longitudinally inline with the post backbone 76 so as 540 to be insertable into the ground for securing the post

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backbone 76 in place on the ground. The step bracket 82 is mounted to the post backbone 76 adjacent to the lower end 76B thereof and, as seen in the embodiments of FIGS. 7 and 8, has a spike 94 attached to and extending downward from an outer 545 end 82A of the step bracket 82. The step bracket 82 receives thereon the installer's foot to force the ground anchor stake 80 and outer spike 94 into the ground.

Since the spacer posts 16 are not subject to high lateral forces, they can stand alone without additional 550 bracing being needed. A number of the spacer posts 16 are placed at intervals along the length of the straight sections of the fence wire 18 between the winch corner fixture 12 and/or corner post fixtures 14. The function of the spacer posts 16 is to maintain a desired separation between strands 555 of a multiple-wire enclosure or barricade and to keep the sag in the wire 18 to an acceptable minimum. Preferably, an extra spacer post 16 is provided on either side of the winch corner fixture 12 to immediately establish the desired fence wire height above the ground and multi-strand spacing for the 560 system 10.

Referring again to the enclosure arrangement of FIG. 1, at least one and preferably a pair of strands of the fence wire 18 of the system 10 pass between and are secured to the corner post fixtures 14 and spacer posts 16. The strands of 565 fence wire 18 extend from the winch spool 48 of the winch corner fixture 12 and are tied off on the fence wire anchor brackets 30 of the support frame 20 of the winch corner fixture 12. The fence wire 18 can be any available round wire, cable, rope or flat tape. The term "wire" is used 570 herein in a generic sense to include any of these types. For

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containment of animals the choice is usually some form of electrifiable wire or rope. The electrification of the wire, in addition to preventing the animals from pushing through and escaping the containment, also keeps the animals from 575 pressing casually against the portable fencing system 10 causing forces that the fencing system 10 is not designed to withstand.

Referring to FIGS. 9 to 17, there are illustrated several different mounting point devices 96 designed to 580 assist the winch corner fixture 12 and corner post fixture 14 of the portable fencing system 10 in overcoming the weaknesses of different ground segments having characters that lack the characteristics normally desired to accommodate the set up of the system 10. Each of the mounting point 585 devices 96 includes a support base member 98 and penetration means 100 extending downwardly from the base member 98 for penetrating the particular ground segment. After the penetration means 100 on the base member 98 is placed into the ground segment by using one's body weight, a mallet or 590 the like, the stakes 24 of a winch corner fixture 12 or a corner post fixture 14 is inserted through a middle hole 102 in the support base member 98 and also placed into the ground segment. In such manner, the mounting point device 96 enhances and extends the anchorage normally provided by the 595 respective fixture 12, 14. FIGS. 9 to ~~12-11~~ show an embodiment of the mounting point device 96 having a base member 98 in the form of ~~a~~an angle bracket and penetration means 100 in the form of a pair of spikes fixed to and extending in parallel relation from the opposite ends of the 600 bracket 98 for use in the installation of the system 10 in

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weak soil conditions, such as sandy loams, freshly disced fields, soils with little root structure, pebbly mountainside and rock soils, very wet and soft sods, etc. FIGS. 13-12 to 15-14 show another embodiment of the mounting point device 96 |
605 having a base member 98 in the form of a rigid plate and penetration means 100 in the form of a rigid flat spade-like blade for use in the installation of the system 10 in sand conditions. FIGS. 15 to 17 show still another embodiment of the mounting point device 96 having a base member 98 in the
610 form of a rigid plate and penetration means 100 in the form of a rigid flat hoe-like blade for use in the installation of the system 10 in muddy conditions. Each of the embodiments of the mounting point devices 96 also has a rope handle 104 attached to the base member 98 to facilitate easy extraction
615 of the device 96 from the particular ground segment once its use has ended.

Referring to FIGS. 18 to 20, there is illustrated a surface mounting bracket 106 designed to assist the setup of the winch corner fixture 12 and the corner post fixture 14 of
620 the portable fencing system 10 on surfaces where penetration is either not possible or permitted, such as concrete or paved surfaces or driveways, arenas, floors, hard pan, shelf rock, hard campgrounds, etc. The bracket 106 has a lower member 108 which lies on the surface and an upper member 110
625 which is pivotally mounted at one end 110A to the lower member 108 near a corresponding one end 108A thereof. A short tube 112 is fixedly mounted in an upright orientation at the one end 108A of the lower member 108 of the surface mounting bracket 106. The stake 70 of the fixture 14 clips
630 into the short tube 112 of the surface mounting bracket 106.

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The lower and upper members 108, 110 of the bracket 106 have turned up other ends 108B, 110B with respective centered holes therethrough for receiving the stakes 24. FIG. 18 shows different extended conditions of the upper member 110
635 relative to the lower member 108 of the surface mounting bracket 106. It is required that sand bags or other weighted objects (not shown) be applied on the surface mounting bracket 106 to stabilize the respective fixture 12, 14. FIG. 19 shows the lower and upper members 108, 110 of the surface
640 mounting bracket 106 in a retracted condition.

Referring to FIGS. 21 to 23, there is illustrated is—a | surface mounting block 114 designed to assist the setup of the spacer posts 16 of the portable fencing system 10 on the surfaces mentioned earlier where penetration is either not
645 possible or permitted. The block 114 preferably, but not necessarily, is rectangular in configuration and has a central hole 116 therethrough for receiving the ground anchor stake 80 of the spacer post 16 so as to hold the post 16 in an upright orientation as shown in FIG. 21. One material
650 useful for constructing the block 114 so that it will have a weight suitable for performing the desired function described above is recycled plastic lumber.

The portable fencing system 10 of the present invention as now fully described hereinabove is designed for use on all
655 traversable surfaces of ground ranging from pure sand to solid rock. It should be understood that by merely drilling three small shallow holes in hard surfaces, such as rock, the spike points of the stakes 25 of the winch corner fixture 12 can be inserted into the holes and the fixture 12 thereby
660 held and anchored on the hard surface without the use of any

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accessory, such as the above-described surface mounting bracket 106.

The installation of the portable fencing system 10 to provide the enclosure barrier arrangement of FIG. 1 can be 665 accomplished by the performance of the following steps:

(1) The "tripod" or winch corner fixture 12 is ~~first~~ | placed in a desired location, setting its leg members 22 at the desired angle. With his or her heel on the ground, the installer pushes each ground anchor stake 24 into the soil 670 with the ball of his or her foot. If multiple corner post fixtures 14 are to be used, roughly place them and "step" them in at this time, also.

(2) Holding the fence wire 18 by a nonconductive handle (not shown) that can be provided at the end of the 675 fence wire 18, the installer walks across or around the area to be fenced or enclosed, pulling the fence wire 18 behind. Sufficient slack must be left in the wire or sufficient wire must be left on the winch spool 48 to later tighten and wrap the fence wire 18.

680 (3) The installer then hooks the nonconductive handle onto the end point of the portable fence system 10. If one is forming an enclosure, this end point will be the tripod or winch corner fixture 12 itself, using one of the wire wrap anchor brackets 30 at the base of the spool 48. The handle 685 permits the use of the portion of the wire extending from the spacer post 16 next to the winch corner fixture 12 as an entryway to the enclosure.

(4) The installer next steps in the line or spacer posts 16 at the desired locations along the fence line.

690 (5) The pair of fence wires 18 are then inserted

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through the securing and guiding devices 62, 78 on all corner post fixtures 14 and spacer posts 16. One should start at the tripod or winch corner fixture 12 and work towards the end point of the portable fencing system 10 so as to prevent
695 accidental twisting of the two strands of fence wire 18.

(6) At the tripod or winch corner fixture 12, the pair of fence wire strands 18 are pulled to the tension desired. Some slack in the fence line is recommended. At this point, lots of slack hanging off the spool 48 is okay and in fact
700 helpful.

(7) Holding on to both wire strands 18, the installer now lays one wire 18 across one of the wire wrap anchor brackets 30 on the tripod or fixture 12. Using the excess slack that is hanging off the spool 48 (and not the taught fence wire), the installer now wraps about three times around
705 the wire wrap anchor bracket 30.

(8) The installer concludes the steps by applying electricity to the fence wire 18 from a suitable electrical power supply source.

710 In conclusion, the main features and advantages of the portable fencing system 10 of the present invention can be summarized as follows:

(1) The fencing system 10 is highly portable, it requires no tools to install and it has components that are
715 made of lightweight materials, are compact, and easy to transport or store. It is easy to set up, utilizes a shallow penetration of the earth which generally permits installation using the installer's body weight alone, and yet it demonstrates exceptional anchorage strength in the ground.

720 (2) The corner formed by the multiple leg members 22

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with the winch spool 48 centered on top of the fixture 12 is advantageous in that the orientation of the winch spool 48 to the angled leg members 22 assures that the anchorage forces will be equally divided between the leg members 22 for 725 maximum resistance to separation from the ground. Three leg members 22 are the minimum required; other embodiments could use more legs to gain additional ground anchorage strength.

(3) The main support frame 20 of the fixture 12 maintains the proper orientation and pivoting of the three 730 leg members 22 as well as well as provides anchorage brackets 30 for the ends of the strands of fence wire 18.

(4) The orientation of the stakes 24 on the leg members 22 is advantageous in how each stake 24 is caused to act like a "plow" under load which takes advantage of the 735 superior shear strength found in pasture soils with good grass root systems. Whereas the anchor portion 40 of the anchor stake 24 shown in the illustrated embodiment is of a simple round configuration and of a relatively short length, it should be understood that other shapes and longer lengths 740 can be used for the many different soil conditions to which it may be exposed.

(5) The configuration of the corner post fixtures 14 with their arrangement of corner brace members 58 outside of the enclosure arrangement of the fence system 10 whereby 745 fence tension forces place these brace members 58 in tension to fully utilize the advantages of the anchorage feature noted in (4) above. If the brace members 58 were, instead, merely oriented in the direction of the fence wire 18 and placed into the interior of the enclosure arrangement, they 750 would be put in compression and would cause the vertical

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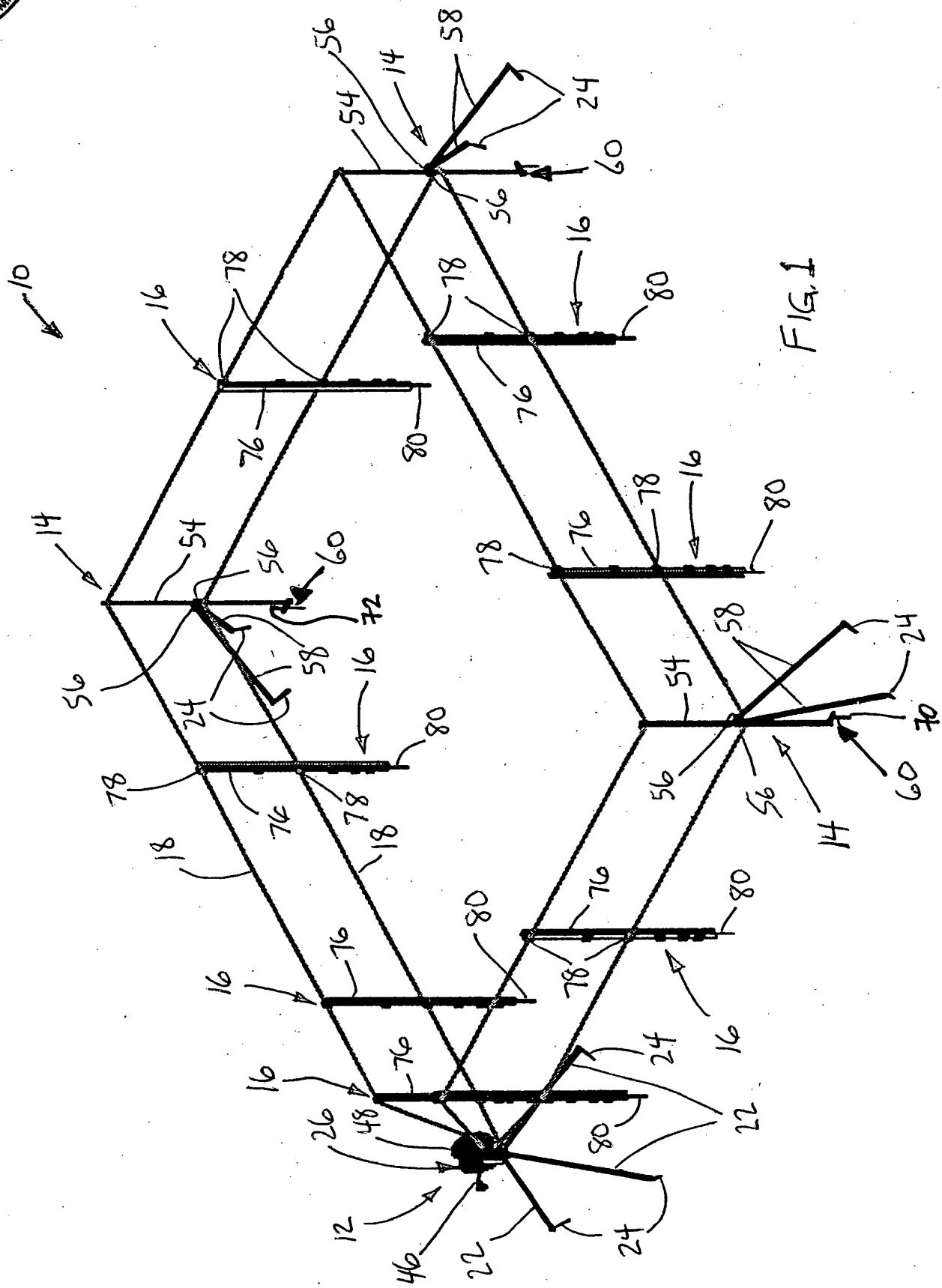
corner post member 54, unless securely anchored, to be leveraged upward and out of the ground.

The portable fencing system 10 of the present invention, as described in detail above, can be used for a 755 multitude of functions including, but not limited to, the following: (1) providing enclosures or barriers for the containment of livestock, people or vehicles; (2) defining barricades or corridors for the preventing or directing of movement of livestock, people and vehicles; (3) defining 760 boundaries for sports fields, arenas or crime scenes; (4) providing dividers for sports fields or arenas; (4) providing portable paddocks; (5) capture assist for animals; and (6) for testing out various fencing strategies before building permanent fence.

765 It is thought that the present invention and its advantages will be understood from the foregoing description and it will be apparent that various changes may be made thereto without departing from the spirit and scope of the invention or sacrificing all of its material advantages, the 770 form hereinbefore described being merely preferred or exemplary embodiment thereof.

ABSTRACT OF THE DISCLOSURE

A portable fencing system in a barricade or corridor arrangement utilizes at a minimum one each of ~~a winch corner~~
5 ~~fixture, a corner post fixture, a spacer post, and a fence~~ wire. In an enclosure arrangement, the portable fencing system ~~will~~can utilize at least one winch corner fixture, a plurality of corner post fixtures, a plurality of spacer posts and a plurality of fence wires. ~~The spacer~~ Spacer
10 posts are spaced from one another and from ~~the~~ a winch corner fixture and corner post fixtures such that the winch corner fixture, corner post fixtures, spacer posts and fence wires all together can form any suitable arrangement in relation to one another to provide an enclosure barrier around an area or
15 a barricade or corridor along a side of an area.



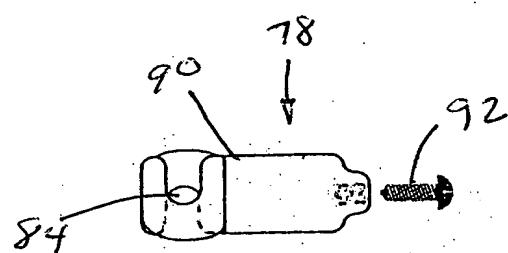


FIG. 8A
PRIOR ART

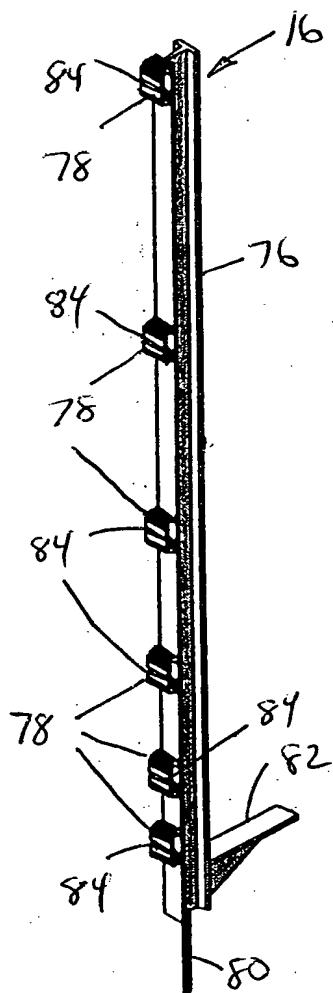


FIG. 6
PRIOR ART

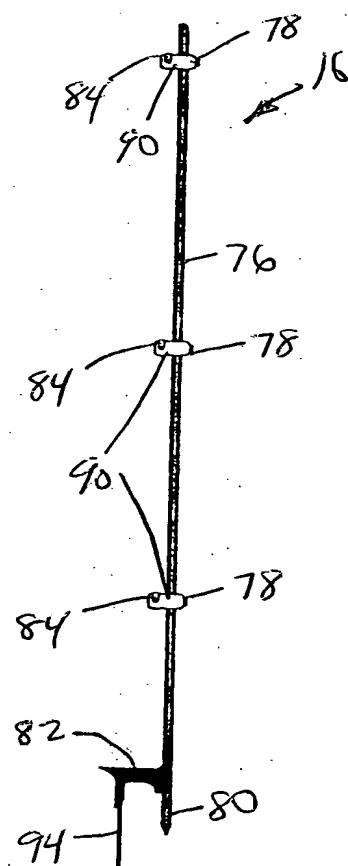


FIG. 8
PRIOR ART

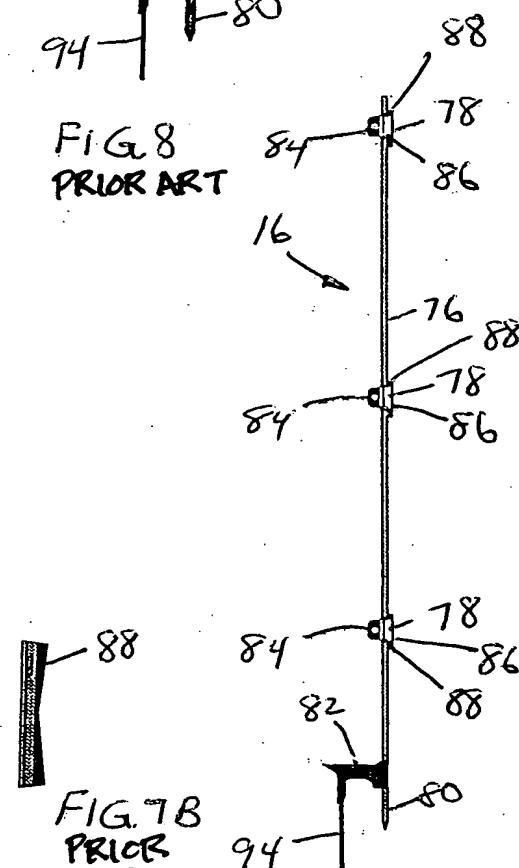


FIG. 7A
PRIOR ART

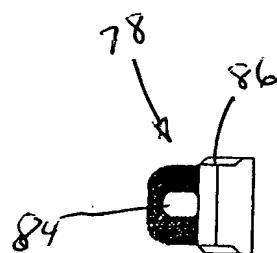


FIG. 7B
PRIOR ART

FIG. 7
PRIOR ART